

What is claimed is:

1 1. A method of redirecting a request from a client that may be served by a first server to
2 a second server, the method comprising the computer-implemented steps of:
3 receiving a client request at the second server;
4 automatically forwarding the client request to the first server;
5 receiving a result message from the first server;
6 identifying, in the result message, references to resources of the first server;
7 replacing the references to resources of the first server with translated references that
8 reference the second server; and
9 sending the translated references to the client as a response to the client request.

1 3. The method recited in Claim 1, wherein the identifying step comprises the steps of:
2 parsing the result message to identify one or more tags that are associated with
3 references to resources of the first server; and
4 matching the tags to attributes that identify resources of the first server.

1 5. The method recited in Claim 1, wherein the replacing step comprises attaching, to
2 each of the references to resources of the first server, a value that identifies a process
3 of the second server that carries out the identifying step and the replacing step.

- 1 6. The method recited in Claim 1,
2 wherein the step of receiving a client request at the second server comprises the steps
3 of receiving a client HTTP request at a second Web server;
4 wherein the step of automatically forwarding the client request to the first server
5 comprises the steps of redirecting the client HTTP request to a first Web
6 server;
7 wherein the step of receiving a result message from the first server comprises the steps
8 of receiving an HTTP response message from the first Web server that
9 contains an HTML document.
- 1 7. The method recited in Claim 6, wherein the step of identifying, in the result message,
2 references to resources of the first server comprises the steps of parsing the HTML
3 document to identify one or more URLs.
- 1 8. The method recited in Claim 6, wherein the step of identifying, in the result message,
2 references to resources of the first server comprises the steps of parsing the HTML
3 document to identify one or more relative URLs that lack an explicit reference to the
4 first server or one or more URLs that explicitly reference the first server.
- 1 9. The method recited in Claim 6, wherein the steps of identifying and replacing are
2 carried out using a CGI script that may contain one or more associated software
3 elements, and wherein the step of replacing comprises the steps of attaching, to each
4 of the references to resources of the first server, a value that identifies the CGI script.
- 1 10. The method recited in Claim 1, wherein the steps of identifying, replacing and sending
2 comprise the steps of:
3 stream tokenizing the result message into a plurality of tags, each of the tags having
4 zero or more attributes;

5 storing in an output message any tags that are not associated with references to
6 resources of the first server;
7 for each tag that is associated with a reference to a resource of the first server:
8 identifying a resource attribute associated with the tag that identifies the
9 resource;
10 prepending a value, which identifies a software element that carries out the
11 steps of identifying and replacing, to the resource attribute; and
12 storing the tag, value, and resource attribute in the output message.

1 11. The method recited in Claim 1, wherein the first server and the second server form
2 part of a load-balanced server group, and wherein both the first server and the second
3 server are capable of responding to the client request.

1 12. A data communications apparatus, comprising:
2 a first server that hosts a resource that may respond to the request and coupled over a
3 network to a client;
4 a second server coupled to the first server;
5 means in the second server for receiving a request from the client at the second server,
6 automatically forwarding the request to the first server, and receiving a result
7 message from the first server;
8 means for identifying, in the result message, references to resources of the first server,
9 and replacing the references to resources of the first server with translated
10 references that reference the second server; and
11 means for sending the translated references to the client as a response to the request.

1 13. The apparatus recited in Claim 12, wherein the second server further comprises means
2 for receiving, at the second server, a second client request based on the response, and,
3 for the second client request, for repeating the steps of automatically forwarding,
4 receiving a result message, identifying, replacing, and sending.

1 14. The apparatus recited in Claim 12, wherein the second server further comprises means
2 for parsing the result message to identify one or more tags that are associated with
3 references to resources of the first server, and for matching the tags to attributes that
4 identify resources of the first server.

1 15. The apparatus recited in Claim 14, wherein the second server further comprises means
2 for attaching, to each of the references to resources of the first server, a value that
3 identifies a process of the second server that carries out the identifying step and the
4 replacing step.

1 16. The apparatus recited in Claim 12, wherein the second server further comprises means
2 for attaching, to each of the references to resources of the first server, a value that
3 identifies a process of the second server that carries out the identifying step and the
4 replacing step.

1 17. The apparatus recited in Claim 12, wherein the second server further comprises means
2 for receiving a client HTTP request at a second Web server, redirecting the client
3 HTTP request to a first Web server, and receiving an HTTP response message from
4 the first Web server that contains an HTML document.

1 18. The apparatus recited in Claim 17, wherein the second server further comprises means
2 for parsing the HTML document to identify one or more URLs.

1 19. The apparatus recited in Claim 17, wherein the second server further comprises means
2 for parsing the HTML document to identify one or more relative URLs that lack an
3 explicit reference to the first server or one or more URLs that explicitly reference the
4 first server.

1 20. The apparatus recited in Claim 17, wherein the second server further comprises a CGI
2 script that may contain one or more associated software elements, and wherein the
3 second server further comprises means for attaching, to each of the references to
4 resources of the first server, a value that identifies the CGI script.

1 21. The apparatus recited in Claim 12, wherein the second server further comprises means
2 for stream tokenizing the result message into a plurality of tags, each of the tags
3 having zero or more attributes, for storing in an output message any tags that are not
4 associated with references to resources of the first server, and, for each tag that is
5 associated with a reference to a resource of the first server, for identifying a resource
6 attribute associated with the tag that identifies the resource, prepending a value, which
7 identifies a software element that carries out the steps of identifying and replacing, to
8 the resource attribute, and storing the tag, value, and resource attribute in the output
9 message.

1 22. The apparatus recited in Claim 12, wherein the first server and the second server form
2 part of a load-balanced server group, and wherein both the first server and the second
3 server are capable of responding to the client request.

1 23. An apparatus for redirecting a request from a client that may be served by a first server
2 to a second server, the apparatus comprising:
3 a first server that hosts a resource that may respond to the request and coupled over a
4 network to a client;
5 a second server coupled to the first server;
6 a computer-readable medium in the second server comprising one or more sequences
7 of instructions which, when executed by the second server, cause the second
8 server to perform the steps of:
9 receiving a client request;
10 automatically forwarding the client request to the first server;

11 receiving a result message from the first server;
12 identifying, in the result message, references to resources of the first server;
13 replacing the references to resources of the first server with translated
14 references that reference the second server; and
15 sending the translated references to the client as a response to the client
16 request.

1 24. The apparatus recited in Claim 23, further comprising instructions for performing the
2 steps of:
3 receiving, at the second server, a second client request based on the response; and
4 for the second client request, repeating the steps of automatically forwarding,
5 receiving a result message, identifying, replacing, and sending.

1 25. The apparatus recited in Claim 23, wherein the instructions for performing the
2 identifying step comprise instructions for performing the steps of:
3 parsing the result message to identify one or more tags that are associated with
4 references to resources of the first server; and
5 matching the tags to attributes that identify resources of the first server.

1 26. The apparatus recited in Claim 25, wherein the instructions for performing the
2 replacing step comprise instructions for performing the step of attaching, to each of
3 the references to resources of the first server, a value that identifies a process of the
4 second server that carries out the identifying step and the replacing step.

1 27. The apparatus recited in Claim 23, wherein the instructions for performing the
2 replacing step comprise instructions for performing the step of attaching, to each of
3 the references to resources of the first server, a value that identifies a process of the
4 second server that carries out the identifying step and the replacing step.

1 28. The apparatus recited in Claim 23,
2 wherein the instructions for performing the step of receiving a client request at the
3 second server comprise instructions for performing the steps of receiving a
4 client HTTP request at a second Web server;
5 wherein the instructions for performing the step of automatically forwarding the client
6 request to the first server comprise instructions for performing the steps of
7 redirecting the client HTTP request to a first Web server;
8 wherein the instructions for performing the step of receiving a result message from the
9 first server comprise instructions for performing the steps of receiving an
10 HTTP response message from the first Web server that contains an HTML
11 document.

1 29. The apparatus recited in Claim 28, wherein the instructions for performing the step of
2 identifying, in the result message, references to resources of the first server comprises
3 instructions for performing the steps of parsing the HTML document to identify one
4 or more URLs.

1 30. The apparatus recited in Claim 28, wherein the instructions for performing the step of
2 identifying, in the result message, references to resources of the first server comprise
3 instructions for performing the steps of parsing the HTML document to identify one
4 or more relative URLs that lack an explicit reference to the first server or one or more
5 URLs that explicitly reference the first server.

1 31. The apparatus recited in Claim 28, wherein the instructions for performing the steps of
2 identifying and replacing are carried out using a CGI script that may contain one or
3 more associated software elements, and wherein the instructions for performing the
4 step of replacing comprise instructions for performing the steps of attaching, to each
5 of the references to resources of the first server, a value that identifies the CGI script.

1 32. The apparatus recited in Claim 23, wherein the instructions for performing the steps of
2 identifying, replacing and sending comprise instructions for performing the steps of:
3 stream tokenizing the result message into a plurality of tags, each of the tags having
4 zero or more attributes;
5 storing in an output message any tags that are not associated with references to
6 resources of the first server;
7 for each tag that is associated with a reference to a resource of the first server:
8 identifying a resource attribute associated with the tag that identifies the
9 resource;
10 prepending a value, which identifies a software element that carries out the
11 steps of identifying and replacing, to the resource attribute; and
12 storing the tag, value, and resource attribute in the output message.

1 33. The apparatus recited in Claim 22, wherein the first server and the second server form
2 part of a load-balanced server group, and wherein both the first server and the second
3 server are capable of responding to the client request.

1 34. A computer-readable medium carrying one or more sequences of instructions for
2 redirecting a client request of a client that may be serviced by a first server, to a
3 second server, wherein execution of the one or more sequences of instructions by one
4 or more processors causes the one or more processors to perform the steps recited in
5 any of Claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, or 11.